

Case Report:

Sigmoid Volvulus Complicating Advanced Pregnancy:

Anifowoshe S.O.⁽¹⁾, Al Hakeem M.⁽¹⁾, Noureldin O.⁽²⁾ H.

Department of Obstetrics & Gynaecology¹, Department of Surgery², King Khalid University Hospital, Riyadh, Saudi Arabia

Intestinal obstruction in pregnancy is very rare but when this occurs, volvulus should be thought of with a high index of suspicion.

Intestinal volvulus is responsible for 25% of acute bowel obstruction in pregnant patients. It is a difficult diagnosis to make because its symptoms mimic various pregnancy symptoms but it commonly occurs in the third trimester or in the puerperium.

X-ray and colonoscopy can be useful to obtaining the earliest diagnosis leading to surgical intervention if necessary. Limited use of x-ray with shielding of the fetus is of minimal risk and useful for early diagnosis of volvulus.

Also, colonoscopy or sigmoidoscopy can be used to confirm and manage colonic volvulus. If surgery is necessary, a mid-line longitudinal incision should be undertaken for proper exposure and exploration of the abdominal cavity.

Acute intestinal obstruction due to volvulus is extremely rare in pregnancy but when this occur it's usually associated with high mortality and morbidity^(1,2).

The incidence of intestinal obstruction during pregnancy has been reported to be within 1 in 1500 to 1 in 66,431 deliveries.^(3,4,5)

This complication was first reported by Houston in 1830.⁽⁴⁾ In his study the maternal mortality rate was 21% and fetal morbidity was 50%.

Volvulus being the most common cause of intestinal obstruction complicating pregnancy accounts for up to 44% of cases.⁽⁶⁾ About 90% of cases involve the large bowel, the sigmoid colon being the most frequently affected.^(7,8,9)

Other causes of intestinal obstruction complicating pregnancy include adhesion from previous abdominal surgery, hernia, intususception, appendicitis carcinoma and congenital malrotation.^(10,11)

Diagnosis can be difficult because the symptoms of intestinal volvulus mimic the symptoms of pregnancy. Also the enlarged uterus interferes with adequate examination.

The reluctance in the use of radiological investigations in pregnancy also delays the diagnosis of intestinal volvulus.⁽⁵⁾

Case Report.

A 28 year old lady, gravida 3, para 2, presented at 38 weeks of gestation with acute abdominal pain which has been worsening over the past 20 hours prior to presentation.

Address for Correspondence: Dr. Sadiq Oladele Anifowoshe, King Khalid University Hospital, Department of Obstetric & Gynaecology, P.O.Box 7805 Riyadh 11472 - Saudi Arabia. Fax # 966014679557, E-mail : delesadq@hotmail.com

She gave a history of chronic constipation and abdominal distension which was investigated 4 years ago. At that initial presentation, she had barium meal which revealed a suspected partial intestinal malrotation. She was scheduled for barium enema but was lost to follow-up until her current pregnancy when she presented with abdominal pain.

She had been on a high fibre diet for chronic constipation which had become worse during the pregnancy. There was no associated vomiting and or history of previous abdominal surgery.

On physical examination, she was in severe distress from abdominal pain. She was febrile (temp 37.8 %c) but not toxic looking, her pulse was 100bpm.

Abdominal examination revealed a gravid uterus pushed toward the right half of the abdomen with visibly distended convoluted loops of bowel on the left half.

The uterus was soft with no palpable contractions and the fetal parts were easily felt. The patient was quite tender to the left half of the abdomen with moderate rebound. She also found it difficult to lie towards the left side because of tenderness.

The fetal heart beats was heard and it was regular.

Vaginal examination revealed a long uneffaced cervix with closed cervical Os.

Rectal examination revealed an empty rectum with no faeces on the examining gloved finger.

A tentative diagnosis of intestinal obstruction

due to volvulus was entertained.

The leucocyte count was $9.9 \times 10^9/L$ and a plain abdominal x-ray revealed gross dilatation of the large bowel.

In co-operation with the General Surgeon, the baby was delivered by Caesarean section through a mid-line abdominal incision for proper exposure and exploration of the abdominal cavity. A live male infant weighing 3.20Kg with good Apgar score was delivered.

Further abdominal exploration after the Caesarean section delivery revealed grossly dilated sigmoid colon up to the splenic flexure. This was twisted once with no evidence of gangrenous changes. A total length of 34cm of colon was resected and primary anastomosis performed.

The post operative period was uneventful and she was discharged home on the 7th day on normal diet.

Discussion:

Intestinal obstruction is a grave complication of pregnancy and results most frequently from pressure of the growing uterus on intestinal adhesions that were formed from previous abdominal surgical procedures. Underlying congenital abnormality was found to be present in 25% of patients with volvulus⁽¹²⁾. In this case partial malrotation was suspected from the initial barium meal but was not confirmed prior to the patient's presentation.

Finding an increase in the incidence of Volvulus towards the end of pregnancy, Harer and Harer⁽¹²⁾ concluded that displacement of the bowel can precipitate obstruction and that the presence of

the gravid uterus might prevent spontaneous reduction.

Volvulus of the sigmoid colon is particularly difficult to recognize and in consequence dangerous because of the delay in instituting treatment.

In Saudi Arabia, very little has been reported of sigmoid volvulus complicating pregnancy. A high incidence reported in Africa and Iran has been attributed to high fibre diet indigeneous to that population.^(6,9,13)

Apart from the general signs of obstruction, the absence of flatus and emptiness of the rectum are important clues to the diagnosis.⁽¹⁴⁾

The presentation in the reported was quite classical both from the history and radiological findings especially a previous barium meal that suggested a partial intestinal malrotation. This was confirmed by plain abdominal x-ray on admission which revealed grossly dilated colon. A variety of treatment options have been used for sigmoid volvulus since it was first described. Suppositories, enemas, reduction by external manipulations and the use of rectal tubes have all had their advocates^(5,15-18). However, it was not until the twentieth century that laparotomy was employed⁽⁹⁾. More recently, flexible endoscopy has been utilized for decompression but most authors have employed the colonoscope rather than flexible sigmoidoscope⁽¹⁵⁻¹⁸⁾.

In the case presented, no attempt at sigmoidoscopy was made considering the acute presentation, low grade fever and absent bowel sound, thus suggesting a possible gangrenous changes.

Although rectal tube placement via the sigmoidoscope for decompression and detorsion has been successful in non-pregnant patients, its successful use in late pregnancy has been reported only once⁽¹⁹⁾.

In conclusion, non-obstetric abdominal pain in pregnancy should be promptly investigated with a differential diagnosis of intestinal volvulus in mind. This will subsequently lead to prompt and early management to reduce the high maternal and fetal mortality and morbidity usually with the condition. When caesarean section delivery is necessitated, a mid-line longitudinal incision should be performed for adequate exposure and exploration.

Surgical resection eliminates the possibility of recurrence and usually results in low morbidity and mortality⁽²⁹⁾.

References:

1. Pritchard J.A.(1989): William's Obstetrics. Chap, 39, P. 834. Editors, Cunningham, MacDonald, Gant. Appleton & Lange, Connecticut, U.S.A.
2. Fraser J.L, Eckert L.A: Volvulus complicating pregnancy. Can. Med. Assoc J, vol 128, may 1,1983;1045.
3. Coughlan B.M, O'Herlihy C.O: Acute Intestinal Obstruction during pregnancy. J. R. Coll. Surg. Edinb. 1978, 23: 175-7.
4. Perdue P.W, Johnson H.W Jr, Stafford P.W: Intestinal Obstruction complicating pregnancy. Am. J. Surg. 1992, 164: 384-8.
5. Montes H, Wolf J,:Caecal Volvulus in pregnancy. Am. J. Gastroenterol, 1999, 94: 2554-2556.
6. Ballantyne G.H, Brandner M.D, Beart R.W, Ilstrup D.M: Volvulus of the colon; Incidence and mortality. Ann. Surg. 1985,